

Work Order ID 63014

October 18, 2010 8:06:37 AM



Page 1

Item ID: D4108-7

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 19/10/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 20/10/2010 Req'd Qty: 2.00



Customer:

Reference: *10-10-18*

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4108	A

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**

100 Cut blanks as per folio

0.00



Bandsaw

Memo

0.00

Jeaspa Bandsaw

110

0.00



HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

MILL AS PER DWG AND FOLIO FA977

FOLIO REV: AA

DWG REV: A

DEBURR

SL 10/10/19

(2)

(2)

Work Order ID 63014

October 18, 2010 8:06:37 AM



Page 2

Item ID: D4108-7

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 19/10/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 20/10/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00	JL	10/10/19		(2)			
130 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00	M.A	10/10/20		(2)			
140 Packaging Packaging	Identify as per dwg & Stock Location: 6-A Memo w/o 62305	0.00 0.00							EF 10/10/20 (2)

Work Order ID 63014

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Page 3

Item ID: D4108-7

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 19/10/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 20/10/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

A-10.10.20.

h 10.10.20

Picklist Print

October 18, 2010 8:06:36 AM

Page 1

Work Order ID: 63014

Parent Item: D4108-7

Parent Item Name: Bracket



Start Date: 19/10/2010

Required Date: 20/10/2010

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A NEW ISSUE 10-10-15 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304B2.000X03.000

Purchased

No

f

8.0000

0.2

0.421053



304 BAR 2.000" X 3.000"



SL 10/10/20

Location

Loc Qty

Loc Code

MAT

8

8

115047

43

M303 2 x 1.750"

10.10.19

DART AEROSPACE LTD		Work Order: 63014
Description: bracket		Part Number: D4108-7
Inspection Dwg: D4108	Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

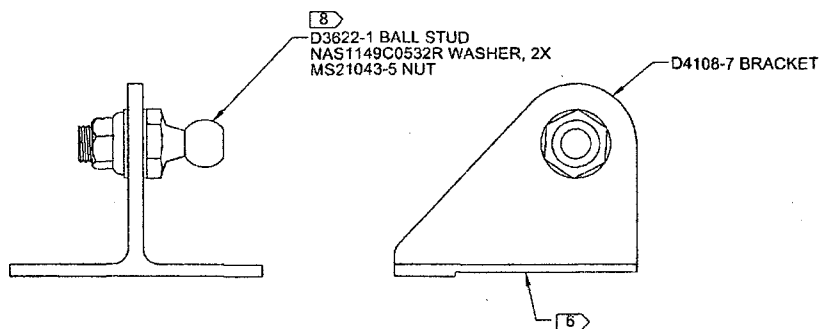
☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.08	$\pm .030$	2.100	✓		Vern. JL-3	
.13	$\pm .030$	.128	✓		"	
.98	$\pm .030$	.978	✓		H-G	
.17	$\pm .030$	.190	✓		Vern. JL-3	
.032	$\pm .010$	.031	✓		"	
.50	$\pm .030$	.505	✓		"	
2.00	$\pm .030$	1.998	✓		"	
5.015	$\pm .010$	.015	✓			
.500	$\pm .030$	.500	✓		"	
.063	$\pm .010$	.065	✓		"	
1.06	$\pm .030$	1.059	✓		"	
6.50	$\pm .030$	.500	✓		R-G	
Ø.316	$\pm .005$ $-.001$	.317	✓		Vern. JL-3	
1.13	$\pm .030$	.130	✓		R-G	
47°	$\pm .5°$	47°	✓		protractor	
1.60	$\pm .030$	1.597	✓		Vern. JL-3	
1.50	$\pm .030$	1.503	✓		H-G	
5.130	$\pm .030$	.125	✓		R-G	

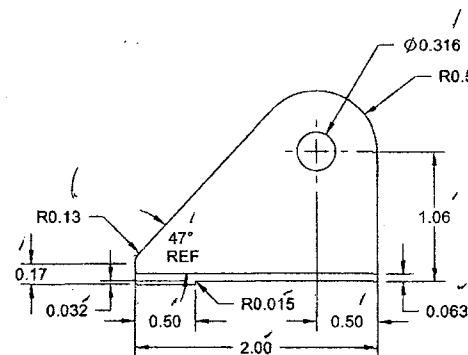
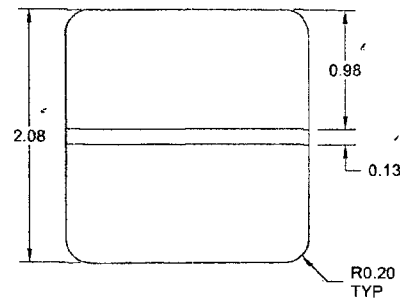
Measured by: SL	Audited by: H.A	Prototype Approval:	N/A
Date: 10/10/19	Date: 10/10/20	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

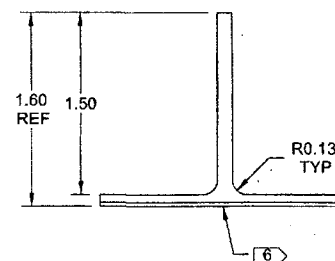
Qty	Part Number	Description
-047	D4108-047	SILL BRACKET ASSEMBLY
1	D4108-7	BRACKET
1	D3622-1	BALL STUD
1	MS21043-5	NUT
2	NAS1149C0532R	WASHER



D4108-047 SILL BRACKET ASSEMBLY



D4108-7 BRACKET



RELEASED
2010-09-23

NOTES:

- 1) MATERIAL -7: 303/304/316 STAINLESS STEEL BAR, PER ASTM A276 OR ASTM A582 PER DART SPEC M303B OR M304B
- 2) FINISH: NONE.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENT P/N D4108-X & B/N PER QSI 044 6.1
- 7) WEIGHT -047: 0.20 lbs
- 8) TORQUE TO 5-10 INCH POUND.

DESIGN	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED	<i>[Signature]</i>	DRAWING NO. D4108	REV. A SHEET 5 OF 7
MFG. APPR.	<i>[Signature]</i>	TITLE DOUBLERS & FITTINGS	SCALE NTS
APPROVED	<i>[Signature]</i>	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.</small>	
DE APPR.	<i>[Signature]</i>		
DATE	10.07.20		

Receiving Report

Date: 10/6/88

Batch No: M115347

Supplier: MAGNA

Dart P/O: 12080

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☐ No ☒
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC6 Inspection ☒ N/A ☐
 Work Order 10668 N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin:
 Date 10/6/88
 Received/Costing
 Initial

Location

Purchase Order Receipt Listing

Page 1 of 1

June 28, 2010 7:33:57 AM

All amounts are calculated in domestic currency.

All Vendors PO ID PO12080 Receipt Dates from 6/28/2010 to 6/28/2010 All Line Item Types

All Item ID/GL/WOs All Rec. Employees All Currencies

Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID\Vendor Name		VC-MAG002	Magna Stainless								
PO12080	1		M303B0.750X1.500	f	6/23/2010	6/28/2010	24.0000	\$32.50	0.0000	0	\$780.00
CAD	No		303 BAR .750" X 1.500"	f	24.0000	DCUSER		\$780.00	0.0000	0	
			115047								
	2		M303B2.000X1.750	f	6/23/2010	6/28/2010	24.0000	\$82.50	0.0000	0	\$1,980.00
	No		303 BAR 2" X 1.750"	f	24.0000	DCUSER		\$1,980.00	0.0000	0	
			115047								
Total Received Quantity:										48.0000	
Total Qty to Inspect (PO U/M):										0.0000	
Total Reject Quantity:										0.0000	
Total Receipt Value:										\$2,760.00	
Total Balance Due Quantity:										0.0000	



Magna Stainless

5775 Kieran St, Saint-Laurent, Quebec H4S 0A3
Phone: (514) 339-1211 Watts: 1-800-363-6646 Fax: (514) 339-1105

PACKING LIST

Page 1 of 1

I028998

I028998

SOLD TO:
DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

SHIP TO:
DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7



SPECIAL INSTRUCTIONS

****INCOMING****

Contact: CHANTAL LAVOIE

Ship Terms: PREPAID

MTR:Y

Currency	Sales Person	Customer Phone	Customer Fax	Customer PO	
CANADIAN DOLLARS	MAGNA SALES	(613) 632-5200	(613) 632-1053	12080	
Sales Order	Terms	Ship Via	Date Ordered	Date Required	Date Shipped
W031422	NET 30 DAYS	NIR:R-557065-1	06/16/10	06/28/10	06/28/10

Ordered	Back Ordered	Unit	Description	Bundle #	Heat #	Shipped
2		PC	STAINLESS - LB 303 FLAT 3/4" X 1 1/2" X 12' LG			2
			94 LB / 2 PC	L040386	E212478	2
2		PC	303 FLAT 1 3/4" X 2" X 12' LG			2
			286 LB / 2 PC	L040387	E208306	2
MATERIAL IS PER ASTM A582						
with W031420 Bundles: 1						
				Approx	Weight:	380 LB

Received by: _____ Date: _____ Signature: _____

807303 - PO# P00225AM003

MONTANSTAHL
special profiles in steel

Tel: +41 (0) 64 16 80 0
Fax: +41 (0) 64 16 80 4
Email: info@montanstahl.com

0.4339

mill test certificate

Flat - ACD 0.75 x 1.5 inch 11-13'

Customer specs

size standards
PT 111

303

ASTM A582/A582M

807301-807309

Consignment Stock #3
(29886, 29580)

net weight
8642 lbs

execution
ACD

marking
EAF/AOD

8 10/6/09

E212478

C	Si	Mn	P	S	Ni	Cr	Mo	Ti	Al	N	Cu	Pb	V	Co
0.059	0.61	1.70	0.032	0.269	8.58	17.71	0.35			0.022	0.63			0.10

yield strength	elongation	area reduction	hardness	impact test
88 ksi	46 %	55 %	112	168

- We hereby confirm that the material certified in this document is conform to enclosed data sheet
- Material is produced in compliance with ROHS (2002/95/EC)
- Material free from Mercury and radioactive contamination



- Country of melt: Spain
- Country of manufacturing origin: Switzerland

20.10.2009



Inc 06-22-10

S00616PR047-1 MAGNA STAINLESS PO: P010523 Part 4:
2.00PC 94.00LB

P010523 - E212478

28448



Montanstahl
CH - 6855 Stabio

PT111

DATA SHEET FOR ACD STAINLESS STEEL FLAT BARS IN
GRADES 303, 304 / 304L AND 316 / 316L

Applicable standards		Rev.	Grade		
			AISI - 303 ¹ UNS - S30700	AISI - 304/304L UNS - S30400 UNS - S30403	AISI - 316/316L UNS - S31600 UNS - S31603
ASTM	A320/A320M	2003	X		X
	A484/A484M	2003a	X		X
	A582/A582M	1995b	X	X	X
	A276	2004		X	X
	A370-03a	2003	X	X	X
	A479/A479M	2004		X	X
AMS	5640U (type 1)	2007	X		
	2241N	2003	X		
	5653F	2002			
	5648K	2002			X
	S 7720 A	1997			X
	5639H (type 1)	2002		X	X
	5647H	2002		X	
	2248E	1993		X	
	QQ 8 763A	2003		X	X
	ASME	SA479 + S2.1	1998		X	X

Chemical values

Grade	C ⁽¹⁾	Si ⁽¹⁾	Mn	Ni	Cr	Mo	S ⁽¹⁾	P ⁽¹⁾	N ⁽¹⁾	Cu ⁽¹⁾	Co ⁽¹⁾	Zr ⁽¹⁾
303	0,15	1	2 ⁽¹⁾	8-10	17-19	0,6 ⁽¹⁾	0,35 ⁽¹⁾	0,15	0,1	0,75	0,1	0,60
304/304L	0,03	0,75	2 ⁽¹⁾	8-10,5	18-20	0,5 ⁽¹⁾	0,03	0,04	0,1	0,50	0,1	
316/316L	0,03	0,75	1-2	10-14	16-18	2-3	0,03	0,04	0,1	0,75	0,1	

⁽¹⁾ Maximum values

⁽²⁾ For thicknesses $\leq 0,25''$: $S_{max} = 0,20$

Mechanical values⁽¹⁾ ⁽²⁾

Grade	Thickness	TS ⁽¹⁾ [KSI]	YS ⁽¹⁾ [KSI]	EL ⁽¹⁾ [%]	RA ⁽¹⁾ [%]	HB ⁽¹⁾
303	Up to 0.5"	75	30	30	40	140-241
	Over 0.5"	75	30	35	50	223
304/304L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	40	50	140-223
316/316L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	30	40	140-223

⁽¹⁾ Maximum values; hardness is measured in centerline of width after removal of specific surface layer (see ASTM A320)

⁽²⁾ Minimum values

⁽³⁾ Cold drawn flat bars are not intentionally strain hardened but drawn to specific dimensional tolerances.

⁽⁴⁾ Cold drawn flat bars have a higher magnetic permeability than HIP flat bars.

- Solution annealed at 1050°C and water quenched
- Intergranular corrosion test according to ASTM A262 practices A, C & E (where applicable)
- Micro and macro structure: OK
- Grain size per ASTM E112: 5-7
- No welding or weld repairs
- Material free of contamination from mercury or metals liquid at ambient temperature

QC 21/01/2004 SPECIFICA DI
VENUTA

c:\documents and settings\venissa.cali\local settings\temporary internet
files\128\en_platw flatw flatw inox - usa_pt111.doc

776523 - PO# P71218AM003

MONTANSTAHL

special profiles in steel

Via Gerette 4
CH - 6855 Stabio
Tel.: ++41-91-8416800
Fax: ++41-91-8473718
email: info@montanstahl.com

003095

Werkabnahmezertifikat / mill test certificate
certificat d'essais / certificato di collaudo

MONTANSTAHL AG, Via Gerette 4, CH-6855 Stabio

Firma / company / raison / firma

Produkt / product / produit / prodotti
Flat - ACD 1.78 x 2 (inch 11-13')

Werkabnahmezertifikat nach:
mill test certificate according to: **Customer specs**
certificat d'essais selon:
certificato di collaudo secondo:

Auftrag-Nr.
order no.
commande n°
n° ordine

Maßnorm / size standards / norme dimensionale / normative dimensionale
PT 111

Nettogewicht / net weight / poids net / peso netto
2671 lbs

Qualität / grade / rinuncia / qualità
303

Ausführung / execution / état de livraison / esecuzione
ACD

Qualitätsnorm / quality standards / norme qualité / normative qualità
ASTM A582/A582M

Runde / bundles / fardes / fasci
776523, 776525, 776527

Erschmelzung / melting / fusion / fusione
EAF/AOD

Legierung / heat / coulee / colata	C	Si	Mn	P	S	Ni	Gr	Mo	Ti	Al	N	Cu	Pb	V	Co
E208306	0.070	0.65	1.75	0.028	0.265	8.63	17.40	0.31			0.022	0.64			0.10

Zugfestigkeit tensile strength résistance traction limite di trazione	Streckgrenze yield strength limite d'élasticité limite di snervamento		Dehnung elongation allongement allungamento	Einschnürung area reduction striction strizione	Hardness durezza durezza	Kerbschlagarbeit impact test résistance resistenza
Rm	Rp 0.2%	Rp 1%	A5	Z	HB	KV
95 ksi	65 ksi		48 %	67 %	164	

- We hereby confirm that the material conforms to the requirements of the specification.

- We hereby confirm that the material certified in this document is conform to enclosed data sheet
- Material is produced in compliance with ROHS (2002/95/EC)
- Country of melt: Germany
- Country of manufacturing origin: Switzerland



Herstellerzeichen
Trade Mark
Signe du Producteur
Logo del produttore



Datum
Date
Data
15.09.2008

Der Werkstättverständige
The Works' Inspector
L'Agent Réceptionnaire de l'Usine
Il certificatore

A. Kapron

P010523 - E208306

08449



Montanstahl

CH - 6855 Stabio

PT111

DATA SHEET FOR ACD STAINLESS STEEL FLAT BARS IN GRADES 303, 304 / 304L AND 316 / 316L

Applicable standards		Rev.	Grade		
			AISI - 303 [®] UNS - S30300	AISI - 304/304L UNS - S30400 UNS - S30400	AISI - 316/316L UNS - S31600 UNS - S31603
ASTM	A320/A320M	2003	X		X
	A484/A484M	2003a	X		X
	A582/A582M	1995b	X		X
	A276	2004		X	
	A370-03a	2003	X	X	X
	A479/A479M	2004		X	X
AMS	5640U (type 1)	2007	X		
	2241N	2003	X		
	5653F	2002			X
	5648K	2002			X
	S 7720 A	1997			X
	5639H (type 1)	2002		X	
	5647H	2002		X	
	2248E	1993		X	X
	QQ S 763A	2003		X	X
	SA479 + S2.1	1998		X	X

Chemical values

Grade	C ⁽¹⁾	Si ⁽¹⁾	Mn	Ni	Cr	Mo	S ⁽¹⁾	P ⁽¹⁾	N ⁽¹⁾	Cu ⁽¹⁾	Co ⁽¹⁾	Zr ⁽¹⁾
303	0,15	1	2 ⁽¹⁾	8-10	17-19	0,6 ⁽¹⁾	0,35 ⁽²⁾	0,15	0,1	0,75	0,1	0,60
304/304L	0,03	0,75	2 ⁽¹⁾	8-10,5	18-20	0,5 ⁽¹⁾	0,03	0,04	0,1	0,50	0,1	
316/316L	0,03	0,75	1-2	10-14	16-18	2-3	0,03	0,04	0,1	0,75	0,1	

⁽¹⁾ Maximum values

⁽²⁾ For thicknesses ≤ 0.25": S_{min} = 0,20

Mechanical values^{(1) (2)}

Grade	Thickness	TS ⁽¹⁾ [KSI]	YS ⁽¹⁾ [KSI]	EL ⁽¹⁾ [%]	RA ⁽¹⁾ [%]	HB ⁽¹⁾
303	Up to 0.5"	75	30	30	40	140-241
	Over 0.5"	75	30	35	50	223
304/304L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	40	50	140-223
316/316L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	30	40	140-223

⁽¹⁾ Maximum values; hardness is measured in centerline of width after removal of specific surface layer (see ASTM A320)

⁽²⁾ Minimum values

⁽³⁾ Cold drawn flat bars are not intentionally strain hardened but drawn to specific dimensional tolerances.

⁽⁴⁾ Cold drawn flat bars have a higher magnetic permeability than HRAP flat bars.

- Solution annealed at 1050°C and water quenched

- Intergranular corrosion test according to ASTM A262 practices A, C & E (where applicable)

- Micro and macro structure: OK

- Grain size per ASTM E112: 5-7

- No welding or weld repairs

- Material free of contamination from mercury or metals liquid at ambient temperature

GG 21/01/2008 SPECIFICA DI
VENDITA

c:\documents and settings\mellisa.cavill\local settings\temporary internet
files\p120\en_platt\traded box - wed_pt111.doc

DART
aerospaceDart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053**PURCHASE ORDER**Purchase Order ID **PO12080**Purchase Order Date 6/14/10
PO Print Date 6/14/10

Page Number 1 of 1

Order From :

VC-MAG002

MAGNA STAINLESS
5775 RUE KIERAN
ST LAURENT, QC H4S 0A3
CAContact Name
Vendor Phone 800 363 6646
Vendor Fax 514 339 1105
Vendor Account NbrBuyer Chantal Lavoie
Requisition Nbr
Tax Resale Nbr 10127-2607
Terms Net 30
Currency CAD
FOBShip To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA**FAKED**
6/16/10

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	M303B0.750X1.500	303 BAR .750" X 1.500"	6/23/10 Yes	24.00 f	Yours ppd	\$32.5000	\$780.00
		Special Inst: MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE					
2	M303B2.000X1.750	303 BAR 2" X 1.750"	6/23/10 Yes	24.00 f	Yours ppd	\$82.5000	\$1,980.00
		Special Inst: AS ABOVE					

PO Total: \$2,760.00

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

Change Nbr: 1

Change Date: 6/14/10

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable